This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for maintaining a link between a first network entity and a second network entity, wherein the first network entity includes a network adapter and a driver, comprising:

at the first network entity, in response to the driver shutting down and reloading with new settings,

determining whether the driver was reloaded before a link-shutdown timer expired, wherein the link-shutdown timer is associated with the link and is started in response to the driver starting a shutdown sequence;

continuing processing without dropping the link to prevent the link from being detected as unavailable by an external network entity in response to the driver being reloaded before the link-shutdown timer expired; and

dropping the link in response to the driver not being reloaded before the link-shutdown timer expired.

2. (Previously Presented) The method of claim 1, further performing:

determining whether a register has a value indicating that the driver has been loaded.

3. (Previously Presented) The method of claim 1, further performing:

determining whether the link-shutdown timer has expired; and

periodically determining whether the driver was loaded in response to determining that the link-shutdown timer has not expired.

4. (Previously Presented) The method of claim 1, further performing:

determining whether the link-shutdown timer has expired; and

periodically determining whether the driver was loaded in response to the driver not being loaded and the link-shutdown timer not having expired.

5. (Currently Amended) A method implemented in a driver executing in a first network entity for maintaining a link between the first network entity and a second network entity, wherein the driver at the first network entity performs:

starting a shutdown sequence;

in response to determining that the link does not need to shut down, starting a link-shutdown timer for dropping the link;

in response to the driver starting a load sequence and determining that the link-shutdown timer is enabled and has not expired, determining whether the link is available, wherein the link is determined to be available when the driver is reloaded with new settings before the link-shutdown timer has expired; and

continuing processing without renegotiating the link in response to the link being available.

6. (Previously Presented) The method of claim 5, wherein the driver further performs:

renegotiating the link in response to the link not being available, wherein the link is not available when the driver is not reloaded before the link-shutdown timer has expired.

7. (Original) The method of claim 5, wherein the driver further performs:

determining, whether flow control is enabled; and

sending an indicator to the second network entity to indicate that the second network entity is to stop sending data packets to the first network entity in response to flow control being enabled.

8. (Original) The method of claim 7, wherein after the driver is reloaded, the driver further performs:

determining whether flow control is enabled; and

sending an indicator to the second network entity to indicate that the second network entity is to start sending data packets to the first network entity in response to flow control being enabled.

9. (Original) The method of claim 5, further performing:

when the driver is reloaded, disabling the link-shutdown timer in response to the link-shutdown timer being enabled and not being expired.

10. (Currently Amended) A system coupled to a network and data storage, comprising:

a storage controller managing Input/Output (I/O) access to the data storage;

at least one driver;

a network adapter; and

control logic to cause the network adapter to perform operations, the operations comprising:

in response to the driver shutting down and reloading with new settings,

determining whether the driver was reloaded before a link-shutdown timer expired, wherein the link-shutdown timer is associated with the link and is started in response to the driver starting a shutdown sequence;

continuing processing without dropping a link for which the link-shutdown timer was started to prevent the link from being detected as unavailable by an external network entity in response to the driver being reloaded before the link-shutdown timer expired; and

dropping the link in response to the driver not being reloaded before the link-shutdown timer expired.

11. (Original) The network adapter of claim 10, wherein the operations caused by the control logic further comprise:

determining whether a register has a value indicating that the driver has been loaded.

12. (Original) The network adapter of claim 10, wherein the operations caused by the control logic further comprise:

determining whether the link-shutdown timer has expired; and

periodically determining whether the driver was loaded before the link-shutdown timer expired in response to determining that the link-shutdown timer has not expired.

13. (Original) The network adapter of claim 10, wherein the operations caused by the control logic further comprise:

determining whether the link-shutdown timer has expired; and

periodically determining whether the driver was loaded in response to the driver not being loaded and the link-shutdown timer not having expired.

14. (Currently Amended) A first network entity coupled to a network and data storage, comprising:

a link from the first network entity to a second network entity;

a processor;

a storage controller managing Input/Output (I/O) access to the data storage; and

a driver at the first network entity, executed by the processor, to perform operations, the operations comprising:

starting a shutdown sequence;

in response to determining that the link does not need to shut down, starting a link-shutdown timer for dropping the link;

in response to the driver starting a load sequence and determining that the link-shutdown timer is enabled and has not expired, determining whether the link is available, wherein the link is determined to be available when the driver is reloaded with new settings before the link-shutdown timer has expired; and

continuing processing without renegotiating the link in response to the link being available.

15. (Previously Presented) The system of claim 14, wherein the operations further comprise:

renegotiating the link in response to the link not being available, wherein the link is not available when the driver is not reloaded before the link-shutdown timer has expired.

16. (Previously Presented) The system of claim 14, wherein the operations further comprise:

determining whether flow control is enabled; and

sending an indicator from the first network entity to the second network entity to indicate that the second network entity is to stop sending data packets to the first network entity in response to flow control being enabled.

17. (Previously Presented) The system of claim 16, wherein after the driver is loaded, the operations further comprise:

determining whether flow control is enabled; and

sending an indicator from the first network entity to the second network entity to indicate that the second network entity is to start sending data packets to the first network entity in response to flow control being enabled.

18. (Original) The system of claim 14, wherein the operations further comprise:

when the driver is reloaded, disabling the link-shutdown timer in response to the link-shutdown timer being enabled and not being expired.

19. (Currently Amended) An article of manufacture for maintaining a link between a first computer and a network entity, wherein the first computer includes a network adapter and a driver, and wherein the article of manufacture causes operations to be performed in the network adapter, the operations comprising:

at the first computer, in response to the driver shutting down and reloading with new settings,

determining, with the network adapter, whether the driver was reloaded before a link-shutdown timer expired, wherein the link-shutdown timer is associated with the link and is started in response to the driver starting a shutdown sequence;

continuing processing without dropping the link to prevent the link from being detected as unavailable by an external network entity in response to the driver being reloaded before the link-shutdown timer expired; and

dropping the link in response to the driver not being reloaded before the link-shutdown timer expired.

20. (Original) The article of manufacture of claim 19, wherein the operations further comprise:

determining whether a register has a value indicating that the driver has been loaded.

21. (Original) The article of manufacture of claim 19, wherein the operations further comprise:

determining whether the link-shutdown timer has expired; and

periodically determining whether the driver was loaded before the link-shutdown timer expired in response to determining that the link-shutdown timer has not expired.

22. (Original) The article of manufacture of claim 19, wherein the operations further comprise:

determining whether the link-shutdown timer has expired; and

periodically determining whether the driver was loaded in response to the driver not being loaded and the link-shutdown timer not having expired.

23. (Currently Amended) An article of manufacture for maintaining a link between a first computer and a network entity, wherein the first computer includes a driver, and wherein the article of manufacture causes operations to be performed in the driver at the first computer, the operations comprising:

starting a shutdown sequence;

in response to determining that the link does not need to shut down, starting a link-shutdown timer for dropping the link;

in response to the driver starting a load sequence and determining that the link-shutdown timer is enabled and has not expired, determining whether the link is available, wherein the link is determined to be available when the driver is reloaded with new settings before the link-shutdown timer has expired; and

continuing processing without renegotiating the link in response to the link being available.

24. (Previously Presented) The article of manufacture of claim 23, wherein the operations further comprise:

renegotiation the link in response to the link not being available, wherein the link is not available when the driver is not reloaded before the link-shutdown timer has expired.

25. (Original) The article of manufacture of claim 23, wherein the operations further comprise:

determining, whether flow control is enabled; and

sending an indicator to the second network entity to indicate that the second network entity is to stop sending data packets to the first network entity in response to flow control being enabled.

26. (Original) The article of manufacture of claim 25, wherein after the driver is loaded, the operations further comprise:

determining whether flow control is enabled; and

sending an indicator to the second network entity to indicate that the second network entity is to start sending data packets to the first network entity in response to flow control being enabled.

27. (Original) The article of manufacture of claim 23, wherein the operations further comprise:

when the driver is reloaded, disabling the link-shutdown timer in response to the link-shutdown timer being enabled and not having expired.